MSVPEREERLLPLTQRNPRASKYLLSGCAATVAELATYPLDLTKTRLQNQGEAALARLGDGARESAPYRGNV RTALGIIEEEGYLKLNQGVTPAIYRHVVYSGGRNVTYEHLREVVYGKSEDEHYPLNKSVIGGNVAGVIGQYLA NPTDLVKVONQHEGKRKLEGKPLRFRGVHHAFAKILAEGGIRGLNAGNVPNIQRAALVHMGDLTTYDTVKHYL WLNTPLEDNINTHGLSSLCSGLVASILGTPADVIKSRIDENQPRDKQGRGLLYKSSTDCLIQAVQGEGFMSLYK GFLPSWLENTPMENVPNLTYEKIRENSGVSPY

Figure 1

CCGAGCTCGGATCCCGTTATCGTCTTGCGCTACTGCTGA

Figure 2

```
MGGLTASDVHPTLGVQLFSAPIAACLADVITFPLDTAKVRLQVQ
UCP1
               MVGFKATDVPPTATVKFLGAGTAACIADLITFPLDTAKVRLQIQ
UCP2
UCP3
                               -MAVKFLGAGTAACFADLVTFPLDTAKVRLQIQ
      L MSVPEEEERLLPLTQRWPRASKFLLSGCAATVAELATFPLDLTKTRLOMO
UCP4
UCP1 45 GECP-----TSSVIRTKGVLGTITAVVKTEGRMKLYSGLPAGLQRQIS
UCP2 45 GESQGPVR---ATVSAQYRGVMGTILTMVRTEGPRSLYNGLVAGLQRQMS
UCP3 33 GENQ-AVQ---TARLVQYRGVLGTILTMVRTEGPCSPYNGLVAGLQRQMS
     51 GEAALARL GDGAR BSAPYRGMVRTALGIIB BE GFLKLWQGVTPAIYRH VV
UCP1 88 SASLRIGLYDTVQEFLTAGKET - APSLGSKILAGLTTGGVAVFIGQPTEV
UCP2 92 FASVRIGLYDSVKQFYTKGSE - HASIGSRLLAGSTTGALAVAVAQPTDV
UCP3 79 FASIRIGLYDSVKQVYTPKGAD - NSSLTTRILAGCTTGAMAVTCAQPTDV
UCP4 101 YSGGRMVTYEHLREVVFGKSEDEHYPLWKSVIGGMMAGVIGQFLANPTDL
UCP1 137 VKVRLQAQSHLHG - - IKPRYTGTYNAYRIIATTEGLTGLWKGTTPNLMRS
UCP2 140 VKVRFQAQARAG- -- GGRRYQSTVNAYKTIAREEGFRGLWKGTSPMVARM
UCP3 128 VKVRFQASIHLGPSRSDRKYSGTMDAYRTIAREEGVRGLWKGTLPNIMRM
UCP4 151 VKVQMQMBGKRKLBGKPLRFRGVHHAFAKILAEGGIRGLWAGWVPNIQRA
UCP1 185 VIINCTELVTYDLMKENFVKNMILLADDVPCHLVSALIAGECATAMSSPVD
UCP2 187 AIVNCAELVTYDLIKDALLKANIMTDDLPCHFTSAFGAGFCTTVIASPVD
UCP3 178 AIVNCAEVVTYDILKEKLLDYHLLTDNFPCHFVSAFGAGFCATVVASPVD
UCP4 201 ALV MMG DETTY DT VKHYL VLMT PLED MI MTHG LSSLC SGL VAS I LG TPAD
UCP1 235 VVKTRFINSPPGQ-----YKSVPNCAMMVFTNEGPTAFFKGLVPSFLRL
UCP2 237 VVKTRYMNSALGQ
                                 -YSSAGHCALTMLQKEGPRAFYKGFMPSFLRL
UCP3 228 VVKTRYMNSPPGQ-----YFSPLDCHIKMVAQEGPTAFYKGFTPSFLRL
UCP4 251 VIKSRIM MOPROKOGRGLLYKSSTDCLIQAVOGEGFMSLYKGFLPSWLRM
UCP1 279 GSWNVIMFVCFEQLKRELSKSRQTMDCAT
UCP2 281 G S W N V V M F V T Y E Q L K R A L M A A C T S R E A P F
UCP3 272 GSWNVVMFVTYEQLKRALMKVQMLRESPF
UCP4 301 TPWSMVFWLTYEKIREMSGVSPF----
```

Figure 3

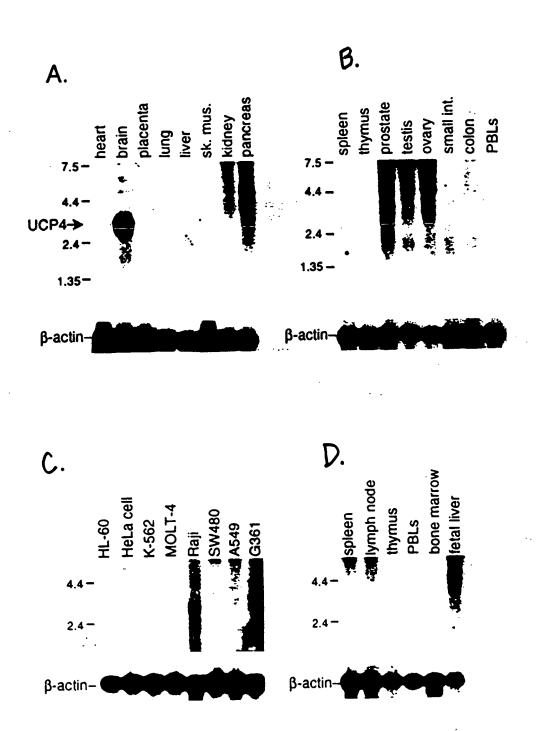
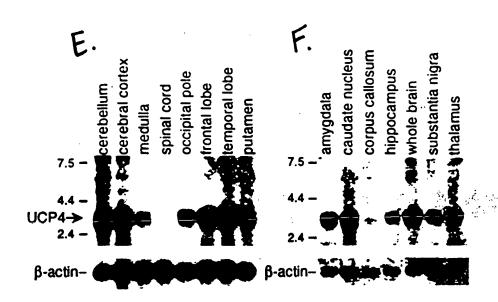


Figure 4



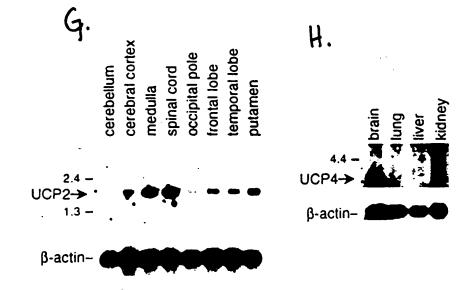
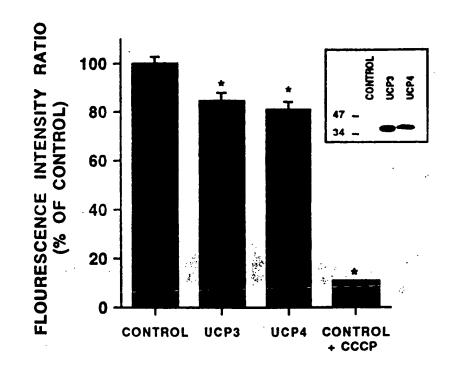


Figure 4



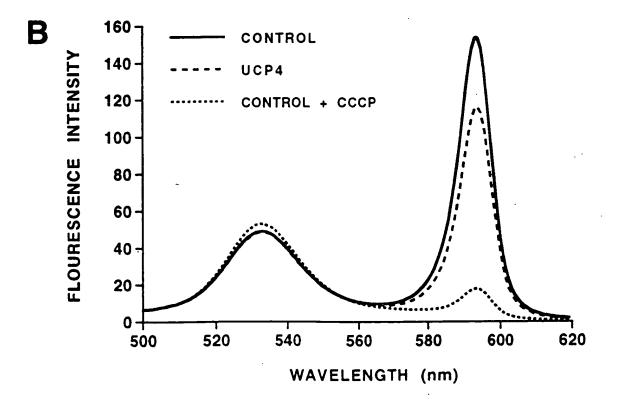


Figure 5

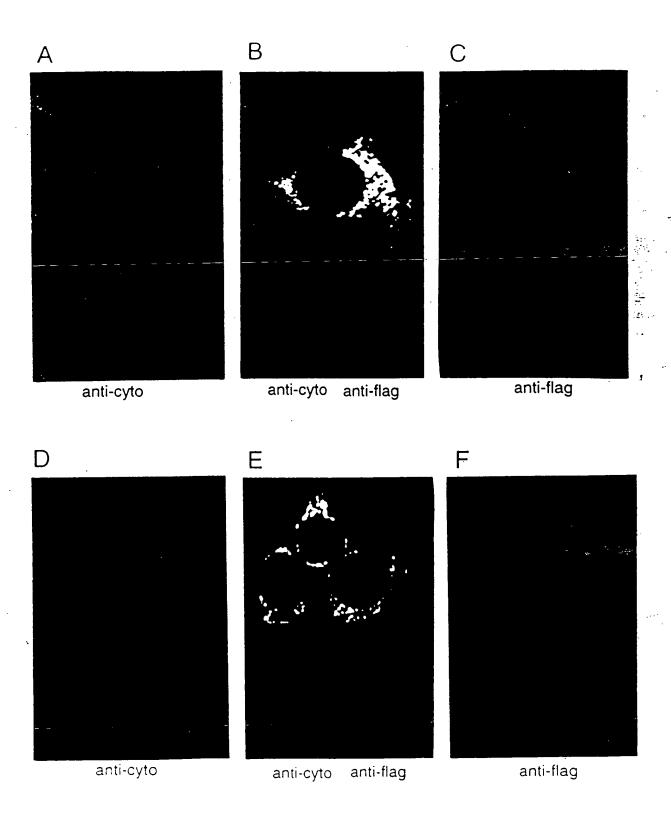


Figure 6

CGTTATCGTCTTGCGCTACTGCTGAATGTCCGTCCCGGAGGAGGAGGAGGAGGCTTTTGCCGCTGACCCAGAG ATGGCCCCGAGCGAGCAAATTCCTACTGTCCGGCTGCGCGGCTACCGTGGCCGAGCTAGCAACCTTTCC GATCTCACAAAACTCGACTCCAAATGCAAGGAGAAGCAGCTCTTGCTCGGTTGGGAGACGGTGCAAGAGAAT CTGCCCCTATAGGGGAATGGTGCGCACAGCCCTAGGGATCATTGAAGAGGAAGGCTTTCTAAAGCTTTGGCA AGGAGTGACACCCGCCATTTACAGACACGTAGTTATTTCTGGAGGTCGAATGGTCACATATGAACATCTCCGA GAGGTTGTGTTTGGCAAAAGTGAAGATGAGCATTATCCCCTTTGGAAATCAGTCATTGGAGGGATGATGGCTG ACTGGAAGGAAAACCATTGCGATTTCGTGGTGTACATCATGCATTTGCAAAAATCTTAGCTGAAGGAGGAATA CGAAGGCTTTGGGCAGGCTGGGTACCCAATATACAAAGAGCAGCACTGGTGAATATGGGAGATTTAACCACTT ATGATACAGTGAAACACTACTTGGTATTGAATACACCACTTGAGGACAATATCATGACTCACGGTTTATCAAG TTTATGTTCTGGACTGGTAGCTTCTATTCTGGGAACACCAGCCGATGTCATCAAAAGCAGAATAATGAATCAA AAGGATTCATGAGTCTATATAAAGGCTTTTTACCATCTTGGCTGAGAATGACCCCTTGGTCAATGGTGTTCTG GATACAGTGTTCAGTATTATTGAAATATGGGCATCTGCAACACATACCCCCTATTATTTCTACCTCTTTAGGA GACTCCTCTTTTTGTCCAAAAGTGATCTGGTCGGATCTCACAAGGCCATCCAATGAGACCCCGNACAGCATTT TCTAAAGA

Figure 7

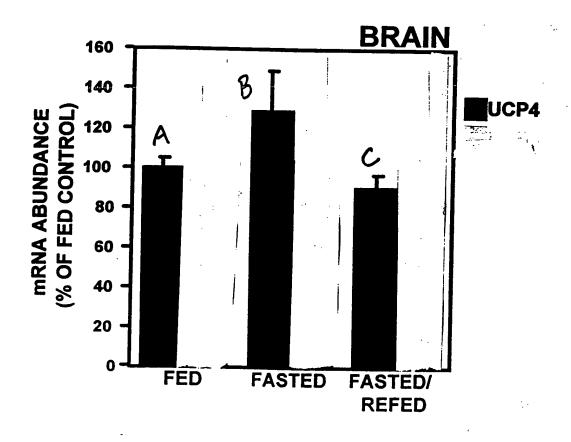


FIGURE 8

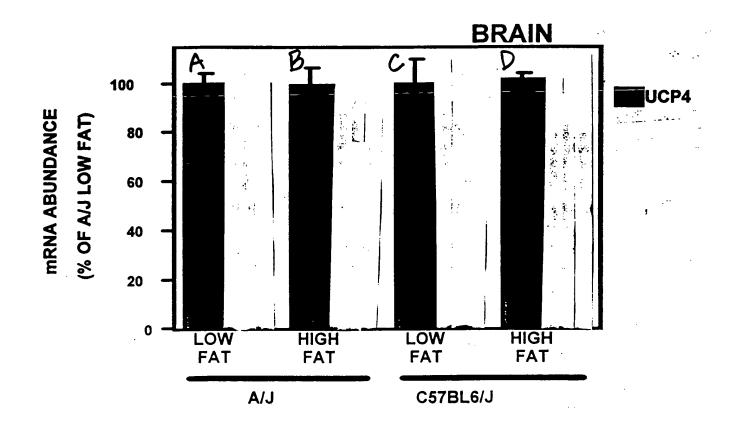


FIGURE 9

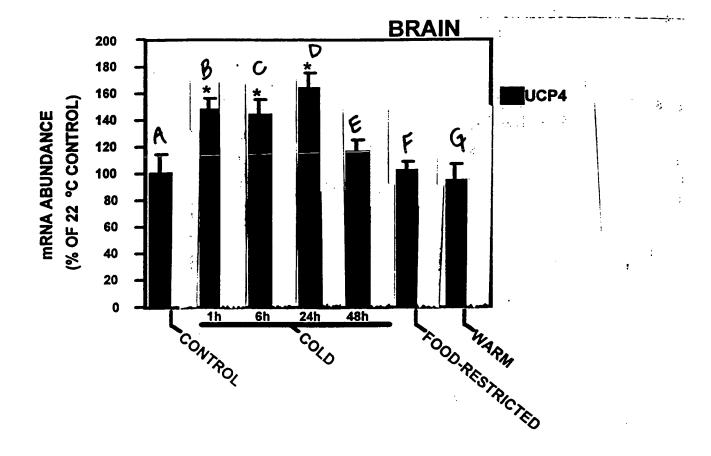


FIGURE 10